PUBLIC SERVICE COMPANY OF OKLAHOMA

An AEP Company

BOUNDLESS ENERGY

SOUTH CHICKASHA

TRANSMISSION IMPROVEMENTS PROJECT

WELCOME TO OUR VIRTUAL OPEN HOUSE

As a result of the COVID-19 pandemic and social distancing recommendations made by the Centers for Disease Control and Prevention (CDC), PSO invites you to attend this virtual open house in order to minimize in-person contact. PSO remains committed to listening to your concerns and answering your questions, but we are also committed to keeping our customers and employees safe and healthy. We welcome your feedback via telephone and email as we strive to make the most informed decisions possible.

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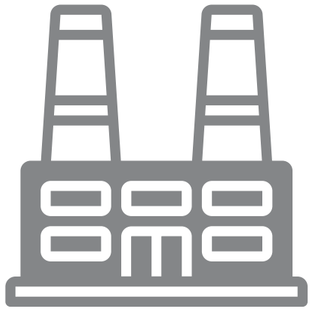
HOW THE SYSTEM WORKS

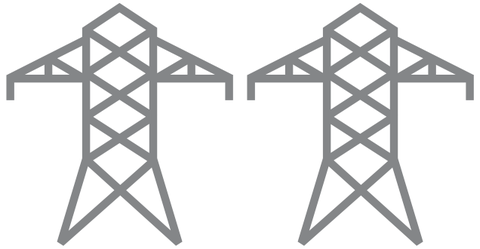
HIGH VOLTAGE

LOCAL TRANSMISSION >>



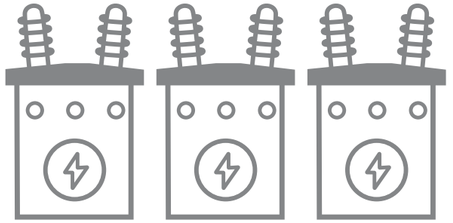
1) GENERATION STATIONS

PSO produces electricity at coal, natural gas, and wind power stations and then transports it long distances over transmission lines.



2) EHV TRANSMISSION

Extra-high Voltage (EHV) electric transmission lines are generally 345-kilovolt (kV) on PSO's system.



3) SUBSTATIONS

Substations direct the flow of electricity and either decrease or increase voltage levels for transport.

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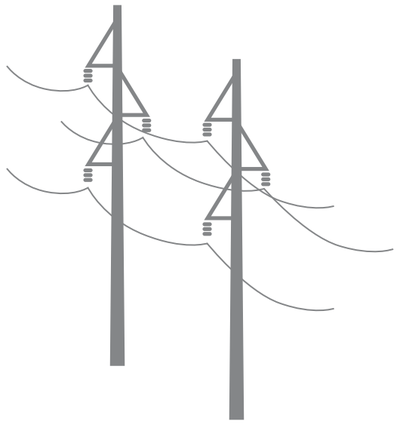
HOW THE SYSTEM WORKS

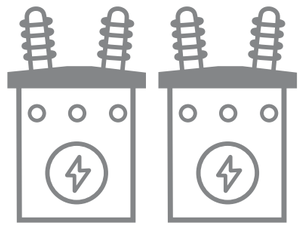
LOCAL TRANSMISSION

DISTRIBUTION >>



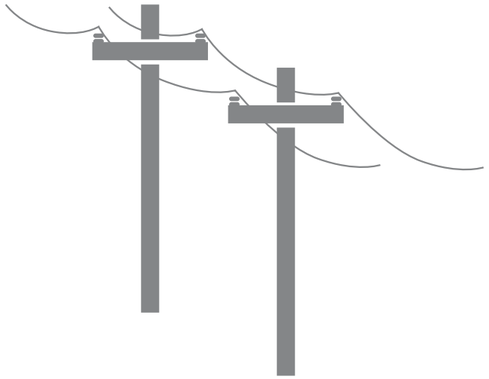
4) LOCAL TRANSMISSION

PSO typically uses 69-kV and 138-kV transmission lines to move power shorter distances - for example, to different parts of a city or county.



5) SUBSTATION

Substations transform 69-kV and 138-kV electricity into lower distribution level voltages such as 34.5 kV, 12 kV, or 7.2 kV.



6) PRIMARY DISTRIBUTION

These main lines (also called circuits) connect substations to large parts of the community.

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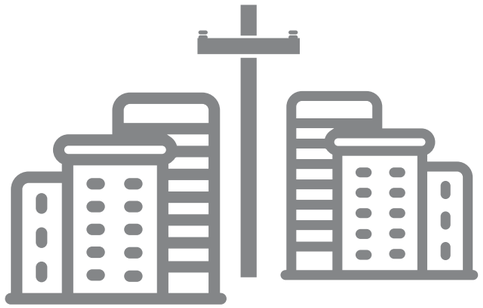
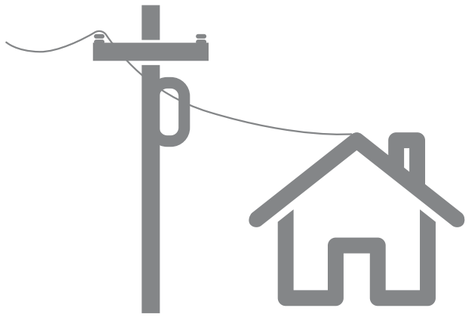
HOW THE SYSTEM WORKS

DISTRIBUTION



7) LATERAL DISTRIBUTION

These smaller capacity lines deliver electricity to neighborhoods and other smaller groups of customers.



8) INDIVIDUAL SERVICE

Smaller transformers step down voltage to levels customers can use -- typically 120 or 240 volts for individual residences.

TO USE AN ANALOGY, ELECTRIC TRANSMISSION IS SIMILAR TO OUR NATIONAL ROAD SYSTEM. THREE KINDS OF POWER LINES EXIST BETWEEN POWER PLANTS AND HOMES AND BUSINESSES:

- Extra-high Voltage (EHV) lines are like electrical interstate highways.
- High-voltage local transmission lines are like four-lane roads.
- Distribution lines are like two-lane roads that eventually connect to your driveway.

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PROJECT NEED & BENEFITS

WHY IS THE PROJECT IMPORTANT TO OUR COMMUNITY?

ENHANCED RELIABILITY

The South Chickasha Transmission Improvements Project upgrades the power line to provide more reliable electrical service to area customers.

UPGRADED INFRASTRUCTURE

The project replaces wooden poles from the 1960s with modern steel poles to reduce maintenance frequency, strengthen the line against weather impacts and decrease the likelihood of larger, community-wide power outages.

MEETING FUTURE NEEDS

The system needs to be upgraded in order to meet current and future power demands in the area. A more robust wire on this line will better accommodate increased electrical load flow. At PSO, we are committed to serving customers across Oklahoma by investing in a reliable, resilient grid.

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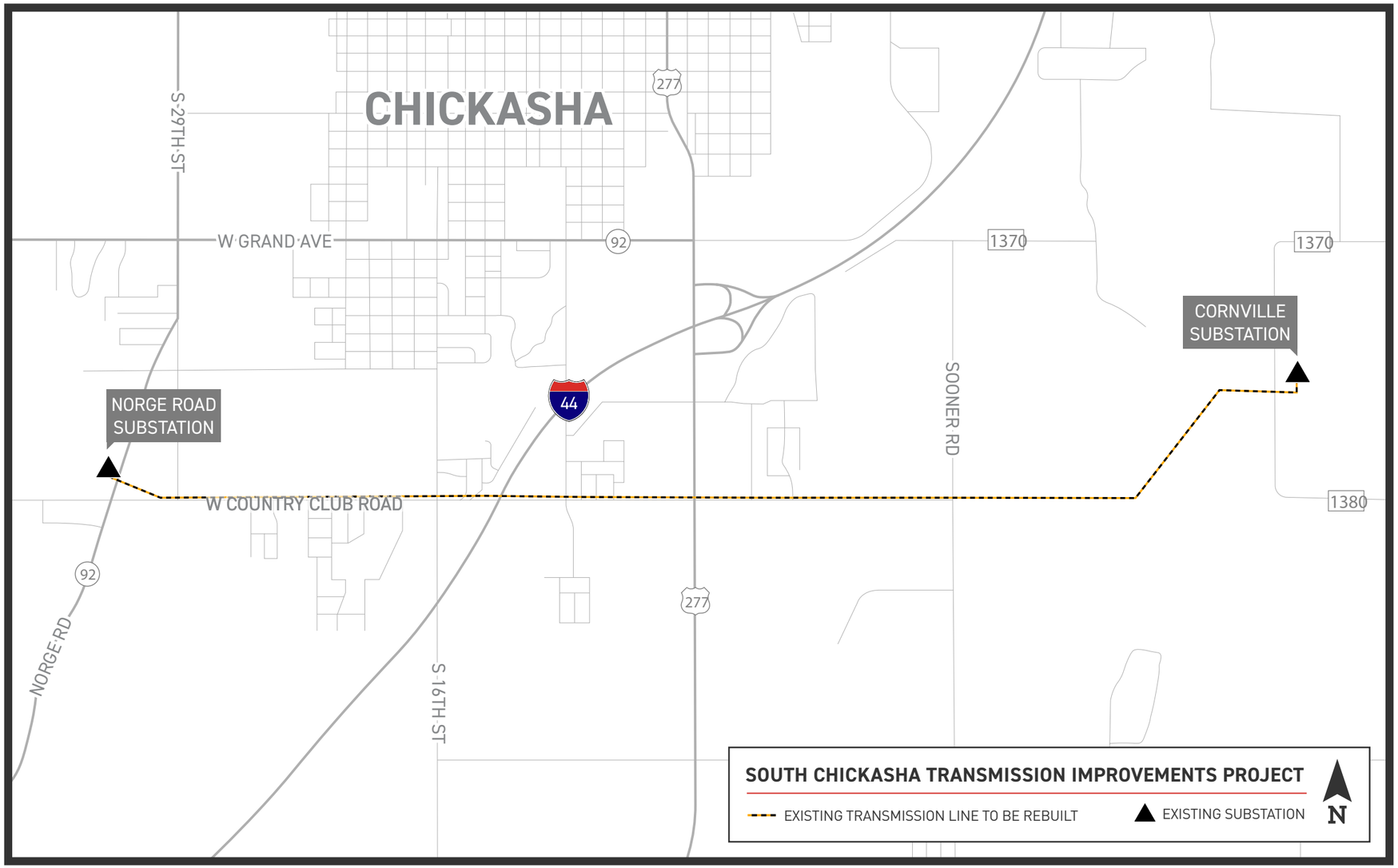
PROJECT MAP



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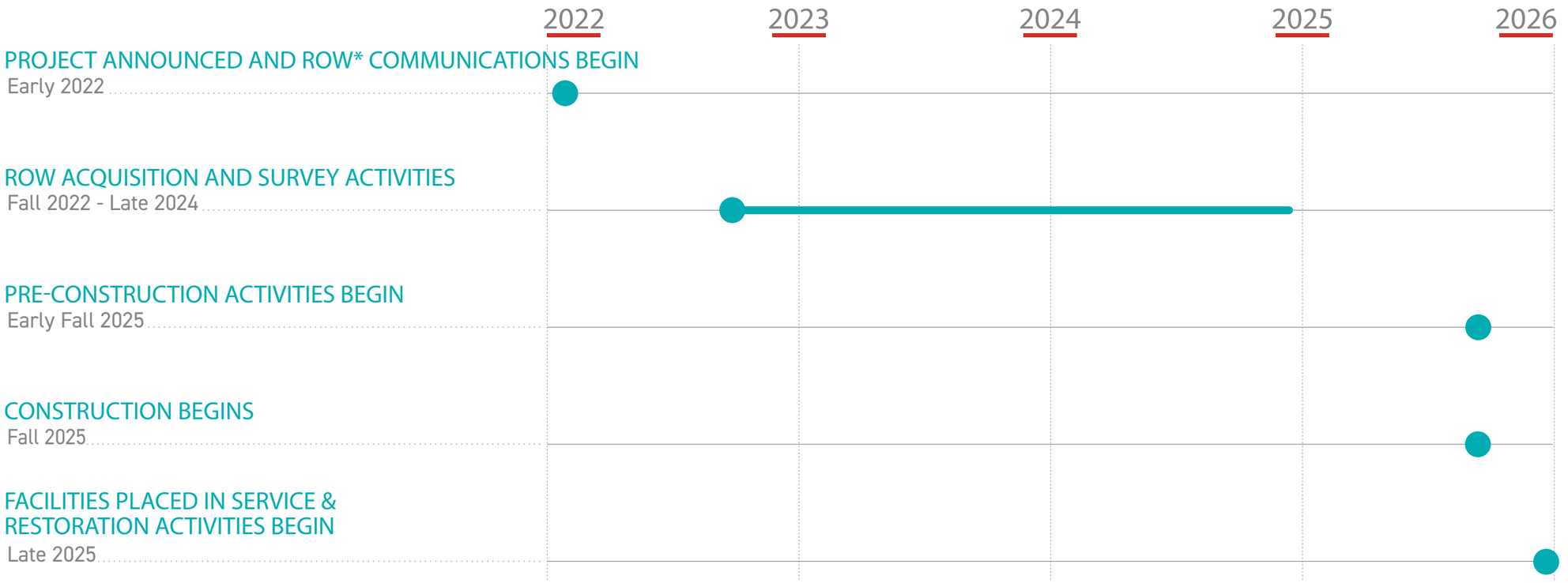
PROJECT SCHEDULE



*ROW: Right-of-Way ** Timeline subject to change

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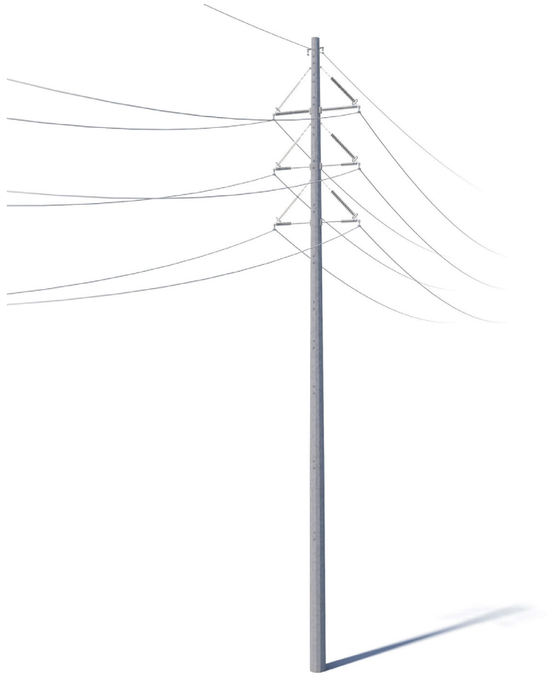
TYPICAL STRUCTURES
CURRENT VS. PLANNED

Typical structure height: *Approximately 90 feet
Typical distance between structures: *Approximately 600 feet

Current structure material: wood
Proposed structure material: steel

*Exact structure, height and right-of-way requirements may vary

CURRENT STRUCTURE



PLANNED STRUCTURE

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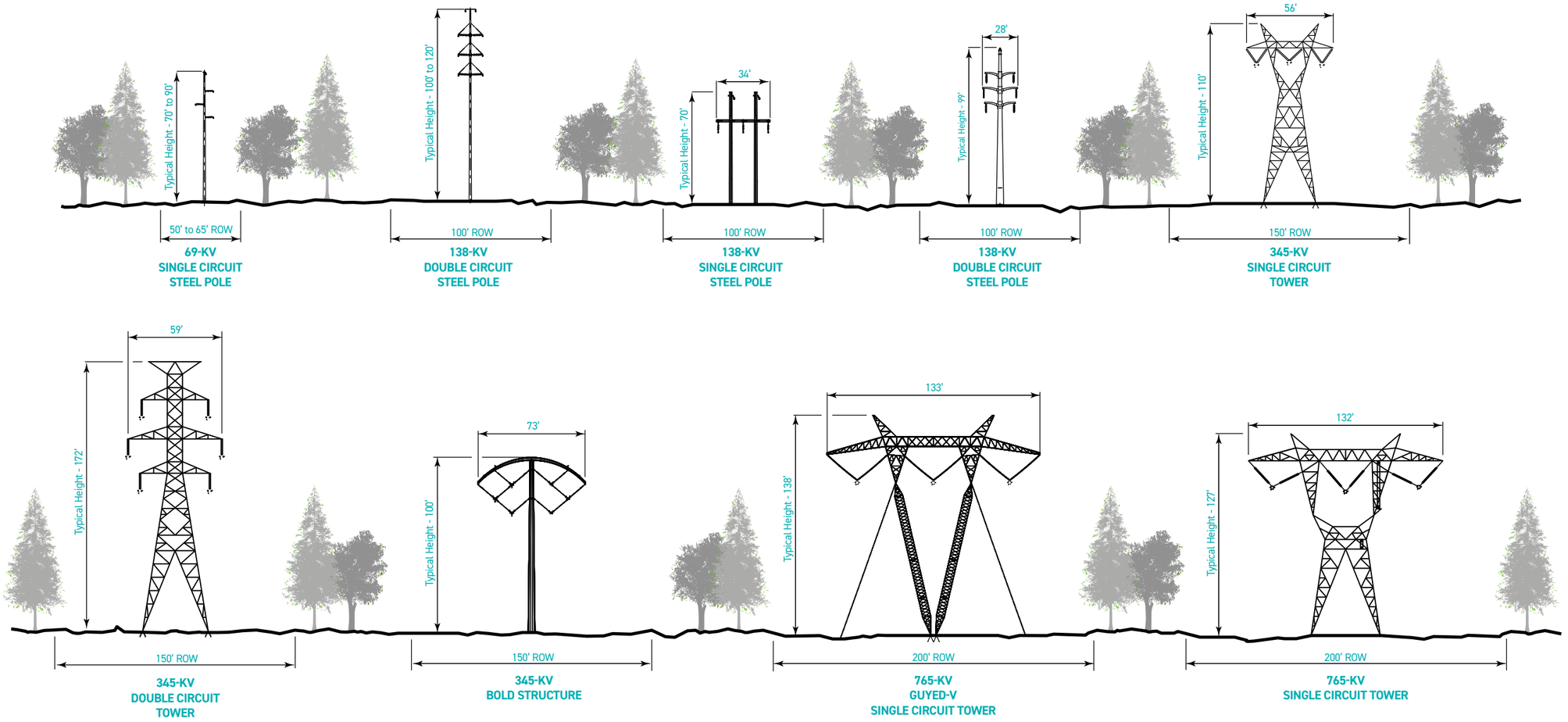
STRUCTURE COMPARISON

Typical structure heights are based upon voltage and configuration. Structures are not to scale but are shown in proportion to each other. Actual heights will vary depending on terrain.



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RIGHT-OF-WAY

PSO HAS TWO KEY PHILOSOPHIES THAT PERTAIN TO POWER LINE RIGHTS-OF-WAY:

1 Routes should cause the least possible disturbance to people and the environment.

2 Property owners should be fairly compensated for any land rights that must be acquired.

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RIGHT-OF-WAY

PSO studies the land and, wherever possible, proposes routes that reduce impacts on property owners. PSO reaches out to landowners in the following ways:

TO GAIN RIGHT-OF-ENTRY TO BEGIN:

- Environmental assessments
- Appraisal work
- Land surveying, soil boring and other field activities
- Cultural and historic resource reviews

TO SECURE RIGHT-OF-WAY AND COMMUNICATE:

- Landowner compensation
- Terms and conditions of easement
- Width of the right-of-way

TO OUTLINE PSO'S CONSTRUCTION PROCESS WITH A SPECIFIC FOCUS ON:

- Property restoration
- Damage mitigation as appropriate

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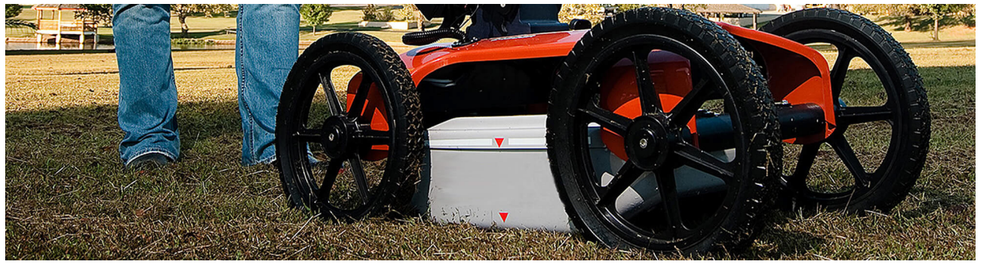
FIELD ACTIVITIES



GROUND PENETRATING RADAR

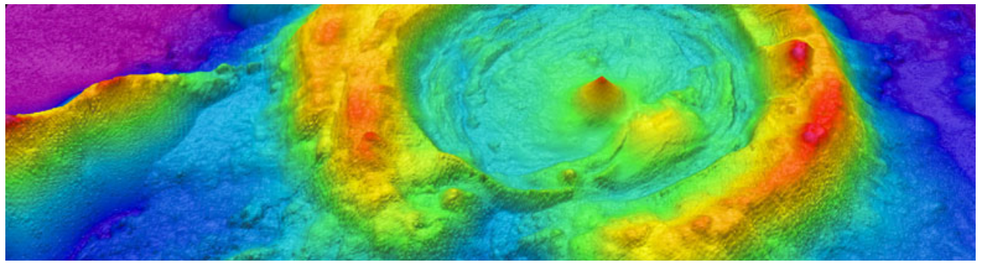
Ground Penetrating Radar (GPR) helps identify the location of underground utilities. A device that looks similar to a lawnmower, and is nondestructive to the soil, uses radio frequencies to detect objects below the ground's surface. Maps and images are created from the data.

HELICOPTER

Challenging terrain or other restrictions/obstructions can make accessing certain parts of a project area difficult. In these locations, crews use helicopters to install structures, string conductors, per form line work and maintain electric facilities. Company representatives work with local media out lets to communicate these activities to the public.

HYDRO EXCAVATION

Crews use hydro excavation (hydrovac) in areas where many underground utilities are located near each other. This process involves using pressurized water to break down soil to expose underground utilities. Afterward, crews backfill the area. The process helps prevent damage to underground infrastructure while gathering important information.



LIDAR

LiDAR (Light Detection and Ranging) uses laser pulses to measure the distance of an object to the source. The data points result in digital 3D maps for accurate design and engineering. LiDAR surveying crews use mobile (car or aerial vehicle) or static (tripod) equipment.

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FIELD ACTIVITIES

SOIL BORINGS

Field crews use a drill to bring up soil samples and then backfill the holes. Testing the core samples helps determine soil conditions in the area. Soil conditions and types can affect structure location and foundation design.

CULTURAL RESOURCE SURVEY

Field crews walk the area and conduct multiple excavation tests to identify historical and archaeological artifacts. Landowners also provide information about their property to survey crews.

ENVIRONMENTAL SURVEY

Surveyors collect information about the habitats and physical attributes of the project area. They also look for ecological concerns like wetlands, flood plains and forests. This process can help protect endangered species, such as the Indiana Bat and American Burying Beetle.

UNMANNED AERIAL VEHICLES (DRONES)

Unmanned aerial vehicles (UAVs), or drones, perform aerial inspections and safely gather data and detailed images of electric facilities. Company employees and vendors comply with all commercial Federal Aviation Administration (FAA) guidelines. Company representatives work with local media outlets to communicate these activities to the public.

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FIELD ACTIVITIES

STAKING

- Field crews use staking to mark the project area, identify utility equipment and pinpoint future structure locations. This process essentially transfers engineering and construction plans to the field.
- Right-of-way crews use staking to identify parcel boundaries, easement boundaries and other utility locations within the company's rights-of-way.
- Environmental crews use staking to identify wetlands or other environmentally sensitive areas.

FIELD SURVEY

- Field survey crews help determine an appropriate route for a new transmission line by identifying constraints within the project area.
- Engineers conduct extensive studies of the terrain and soil to determine what types of structures and foundations are most suitable. They also gather information to create digital 3D maps of the project area to help engineer and design the project.

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VEGETATION MANAGEMENT

WHAT IS VEGETATION MANAGEMENT?

The practice of controlling the growth of trees and other woody stemmed vegetation in line corridors and around substations, while maintaining respect for the environment.

WHY IS IT DONE?

To minimize power outages caused by trees and other plants coming into contact with power lines.

THE GOALS OF PSO'S VEGETATION MANAGEMENT PROGRAM ARE TO:

- Protect our system and minimize outages
- Minimize any adverse environmental impacts
- Ensure compliance with all applicable laws and regulations
- Perform our work as safely as possible
- Maintain a positive relationship with land owners and the public

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CONSTRUCTION FAQ

The South Chickasha Transmission Improvements Project involves rebuilding about 5 miles of 138-kilovolt power line in Grady County to improve electric reliability for area customers.

PROJECT COMPONENTS

The project involves replacing wooden poles with steel poles along a 5-mile, 138-kilovolt power line between PSO's Cornville and Norge Road substations.

TRAFFIC CONTROL

PSO representatives work to ensure public safety and minimize inconveniences during construction. Crews plan to:

- Occasionally close road lanes in residential areas
- Use flaggers and signs to aid traffic flow on city streets during the day
- Open road lanes at night if safety allows

DAILY CONSTRUCTION SCHEDULE

Construction typically takes place Monday - Sunday during daytime hours
(7 a.m. - 7 p.m.), weather permitting.

PUBLIC SAFETY TIPS

- Keep your distance from construction workers and equipment
- Stay outside of temporary safety barriers
- Be aware of uneven or slippery surfaces
- Slow down when driving in the area and make sure your headlights are on
- Watch for construction signs
- Watch for road closures and traffic detours
- Follow flaggers' instructions

WHAT TO EXPECT DURING CONSTRUCTION

CONSTRUCTION SITE PREPARATION: **Early 2023 - Early Spring 2023**

Crews mark utilities and pole locations along the power line route. Crews may remove fences, trees and other obstructions from the right-of-way area as needed for access during construction.
Crews also:

- Install fences around the construction area for the public's safety
- Remove parts of sidewalks around various pole locations
- Remove soil to make room for the larger bases of the new poles

CONSTRUCTION ACTIVITY: **Early Spring 2023 - Late Spring 2023**

Crews place pole sections along the right-of-way corridor prior to pole installation.
At most pole locations, crews:

- Assemble the new pole and place it near the installation area
- Remove existing wires and other equipment from the existing poles
- Remove the existing poles
- Install and stabilize the base of the new pole
- Install and secure the new pole
- Install new wires on the new poles along the power line route

FACILITIES PLACED IN SERVICE: **Late Spring 2023**

Crews place the facilities in service after finishing pole and wire installation.

POST-CONSTRUCTION AND SITE RESTORATION: **Late Spring 2023 - Summer 2023**

PSO crews follow construction crews over the duration of the project to restore properties to as close to their pre-construction condition as possible. Right-of-way agents also work with landowners to address any property damage.

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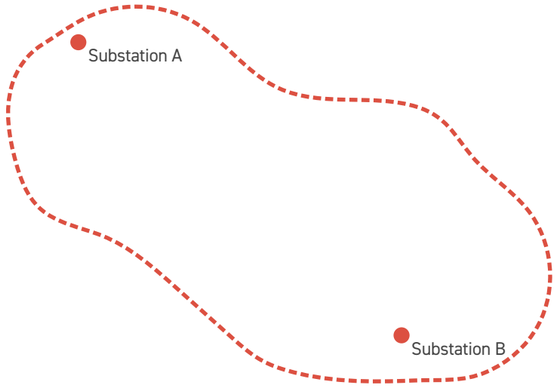
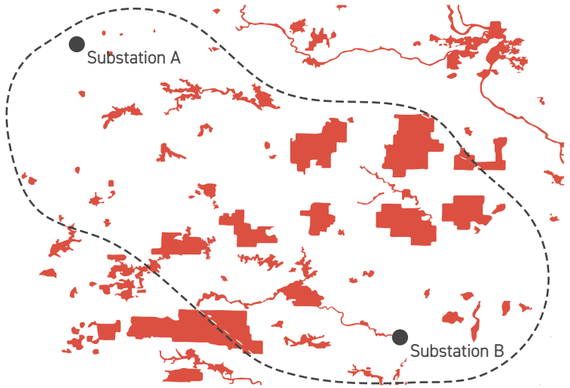
ROUTING PROCESS

PSO implements a comprehensive siting process that takes into account land use, the environment, public input, and engineering guidelines to develop a transmission line route. This process is inherently iterative with route segments changing over time as more information is gathered. Below is a discussion of the terminology used at each stage in the process.





1) STUDY AREA

PSO develops a Study Area for the Project that incorporates the two endpoints and the area in between.

2) DATA GATHERING

Data is gathered for the defined study area including environmental, land use, historic and cultural resources, existing infrastructure and sensitive areas.

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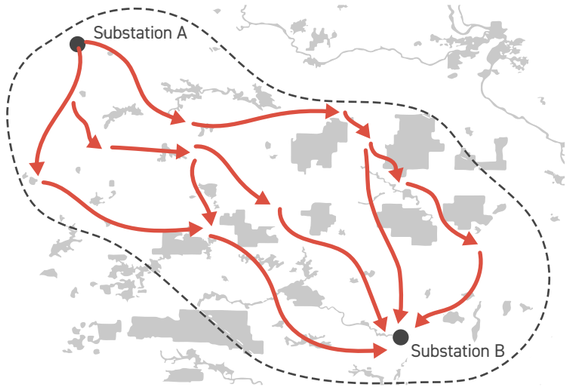
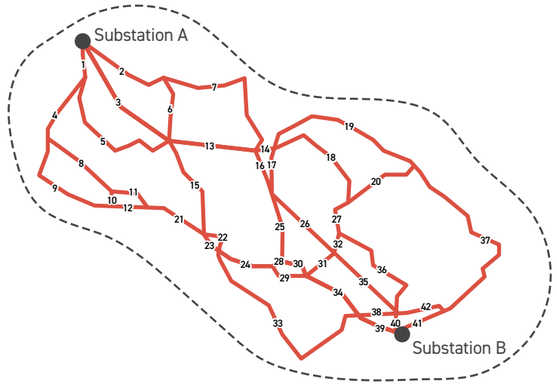
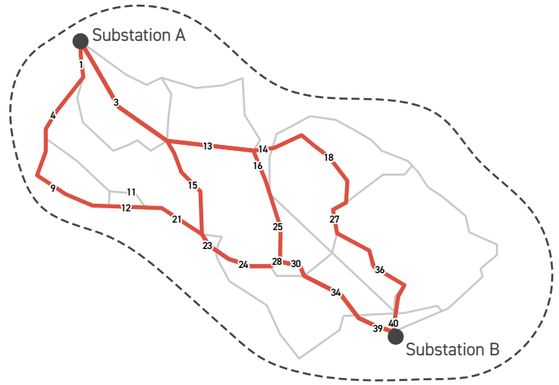
ROUTING PROCESS







3) CONCEPTUAL ROUTES

The Routing Team uses this information to develop Conceptual Routes adhering to a series of general routing and technical guidelines.

4) STUDY SEGMENTS

Where two or more Potential Study Segments intersect, a node is created, and between two nodes, a link is formed. Together, the network formed by these links is referred to as Potential Study Segments.

5) REFINED STUDY SEGMENTS

As more information is gathered, the Study Segments are refined. Some Study Segments are eliminated or modified, leaving the Refined Study Segments for further consideration.

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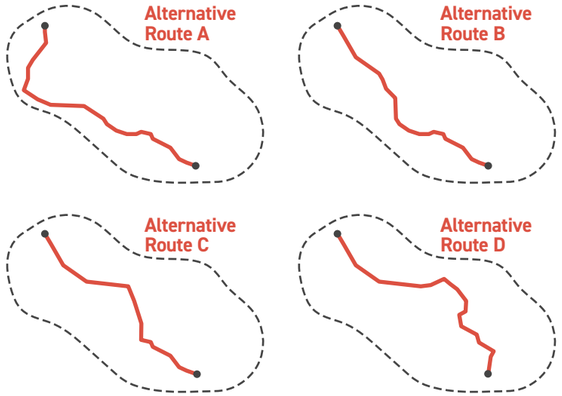
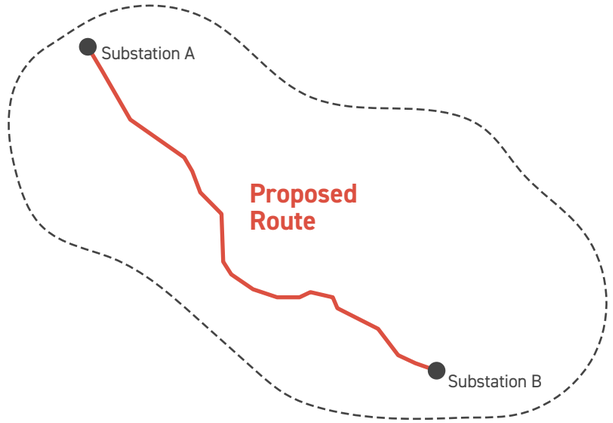
ROUTING PROCESS



6) ALTERNATIVE ROUTES

After public input is incorporated, the Refined Study Segments are further evaluated and a selection of the most suitable segments is assembled into Alternative Routes.



7) PROPOSED ROUTE

Potential impacts are assessed and compared with land uses, natural and cultural resources, and engineering and construction concerns for all the Alternative Routes. Ultimately, a Proposed Route is selected from the Alternative Routes that minimizes the effect of the Project on the natural and human environment, while avoiding circuitous routes, extreme costs, and non-standard design requirements.

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TRANSMISSION IMPROVEMENTS PROJECT

THANK YOU!

Thank you for visiting the project virtual open house. For more information and project updates please visit the project website, or contact us with any additional questions.

REPLAY OPEN HOUSE

DOWNLOAD SLIDE DECK

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VISIT PROJECT WEBSITE